MEMORANDUM

TO:         Mr. Robert Taylor (25)  
             Registration Division  (TS-767)  

THRU:      Orville E. Paynter, Chief  
            Toxicology Branch  
            Hazard Evaluation Division  (TS-769)  

SUBJECT:   PP#2F2604 and 352 UNU - E.I. DuPont de Nemours & Company  
            requests the establishment of tolerances for residues  
            of the herbicide chlorsulfuron (Glean)  
            (2-chloro-N[(4-methoxy-6-methyl 1-1, 3,5-triazin-2-yI)aminocarbonyl])  
            benzenesulfonamide) in or on the following raw  
            agricultural commodities:  

            barley grain               0.05 ppm  
            barley straw              0.5 ppm  
            kidney and liver of cattle, goats, hogs, horses and sheep  
            0.05 ppm  
            meat, fat and meat by-products of cattle, goats, hogs, horses and sheep  
            0.05 ppm  
            milk                      0.05 ppm  
            oat grain                 0.05 ppm  
            oat straw                 0.5 ppm  
            wheat grains              0.05 ppm  
            wheat forage              10 ppm  
            wheat straw               0.5 ppm  

            Temporary tolerances for chlorsulfuron have  
            been established previously on wheat and barley  
            grain at 0.05 ppm (PP#062376). No other chlorsulfuron  
            petitions are pending.  

Recommendation:  

This action request is toxicologically supported.  

Formulation:  

The formulation requested for use in DuPont's Glean Weed  
Killer. Glean contains 79.8% of technical chlorsulfuron.  
All inerts in the formulation are cleared under Section 180.1001.
Data reviewed in the evaluation of this action request.

(Technical Material)

1. Acute Oral LD$_{50}$ (Guinea Pig) = 1,363 mg/kg
   Category III - Core Supplementary (animal species not preferred)
   Haskell Lab.

2. Acute Dermal LD$_{50}$ (Rabbit) = 3,400 mg/kg
   Category III - Core-Minimum (only two dose levels tested)
   Haskell Lab.

3. Acute Inhalation LC$_{50}$ (Rat) = > 5.9 mg/Liter
   Category III - Core-Minimum (only one dose level tested)
   Haskell Lab.

4. Acute Oral LD$_{50}$ (Rat) = female 4113 mg/kg (lower limit)
   = female 9524 mg/kg (upper limit)
   = male 4723 mg/kg (lower limit)
   = male 6648 mg/kg (upper limit)
   Category IV - Core-Guideline - Haskell Labs.

5. Skin Irritation and Sensitization (Guinea Pig) = No
   irritation or sensitization noted - Core-Minimum (Number of
   sensitization treatments; four vs. ten) Haskell Lab.

6. 90-Day Feeding Study (Rat) = NOEL = 100 ppm; LEL = 500 ppm
   (Slight decrease in plasma creatinine, slight increase
   hematocrit) - Core-Minimum - Haskell Lab.

7. 6-Month Dog Feeding Study - NOEL > 2,500 ppm (highest level
   tested) Core-Minimum - Haskell Lab.

8. 2-Year Rat Oncogenic and Feeding Study and a 3-Generation
   Reproduction sub-study - Not oncogenic in this study,
   NOEL = 100 ppm; Reproduction NOEL = 500 ppm - Haskell Lab.

9. Teratology Study (Rat) - Teratogenic NOEL = ≥ 2500 ppm
   (highest level tested) Maternal NOEL = ≥ 2500 ppm;
   Fetotoxic NOEL > 2500 ppm - Core-Minimum (No maternal
   toxicity) Haskell Lab.
10. 2-Year Mouse Oncogenic Study - No oncogenic potential was demonstrated with this test material at dosages up to 5000 ppm - Core-Minimum - Haskell Lab.

11. Teratology Study (Rabbit) - Teratogenic NOEL = 75 mg/kg
    Fetoxic NOEL = 25 mg/kg
    Core-Minimum - Haskell Lab.

12. Dominant Lethal Evaluation in Rats - Study unacceptable - Haskell Labs.


15. Hepatocyte Primary Culture/DNA Repair Assay Using Rat Hepatocytes in Culture - Study unacceptable - Naylor Dana Institute, Valhalla, New York

16. Mutagenic Activity in Salmonella/Microsome Assay - Study is acceptable - Haskell Labs.

Computer printout enclosed.

[Signature]

Mr. Charles Frick
Toxicology Branch
Hazard Evaluation Division (TS-769)

Attachment
<table>
<thead>
<tr>
<th>Chemical</th>
<th>Tolerable Food Factor</th>
<th>mg/day (1.5 kg)</th>
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<tr>
<td>Arsenic (As)</td>
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<td>10.36</td>
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<tr>
<td>Arsenic (As)</td>
<td>0.0080 mg/day (10 kg)</td>
<td>0.0377 mg/day (1.5 kg)</td>
</tr>
</tbody>
</table>

Current action is: 2.0 mg/L (ICRP)}